

CLAIMS

What is claimed is:

1. An inflation/deflation valve, comprising:

a valve body having an internal passageway and a valve outlet end, said valve body having a valve seat disposed within the internal passageway;

a valve sleeve having an outlet end disposed within the internal passageway of said valve body, said valve sleeve having an internal passageway;

a valve face attached to said valve sleeve at the perforated outlet end of said valve sleeve, and

a spring having a spring tension and disposed within the internal passageway of said valve body; said spring maintaining said valve face in an abutting relationship with said valve seat unless a force greater than the spring tension is applied to prevent gas from flowing through the internal passageway of said valve body.

2. The inflation/deflation valve of claim 1 wherein said valve sleeve having means for activating a pneumatic supply for receiving gas within the internal passageway of said valve sleeve.

3. The inflation/deflation valve of claim 2 wherein said valve sleeve having an outer surface which provides non-locking coupling of said valve sleeve to said pneumatic supply.

4. The inflation/deflation valve of claim 2 wherein said valve sleeve having an outer surface having a locking groove for receipt of one or more locking balls to provide for locked coupling of said valve sleeve to said pneumatic supply.

5. The inflation/deflation valve of claim 2 wherein said means for activating is an actuating bridge disposed at an exposed inlet end of said valve sleeve.

6. The inflation/deflation valve of claim 2 wherein said means for activating comprising:

an adaptor having an exposed inlet end, said adaptor removably connected to said valve sleeve at an inlet end of said valve sleeve; and

an actuating bridge disposed at the exposed inlet end of said adaptor.

7. The inflation/deflation valve of claim 6 wherein said adaptor having an outer surface which provides non-locking coupling of said valve sleeve to said pneumatic supply.

8. The inflation/deflation valve of claim 6 wherein said adaptor having an outer surface having a locking groove for receipt of one or more locking balls to provide for locked coupling of said valve sleeve to said pneumatic supply.

9. The inflation/deflation valve of claim 1 wherein said valve sleeve having a pin member and said valve body having an internal groove; wherein when said pin member is disposed within said internal groove said valve face is maintained in a non-abutting position with respect to said valve seat to permit gas flow through the internal passageway of said valve body.

10. The inflation/deflation valve of claim 1 wherein said valve sleeve having a pin member and said valve body having an internal groove; wherein when said pin member is disposed within said internal groove said valve face is maintained in a abutting position with respect to said valve seat to prevent gas flow through the internal passageway of said valve body.

11. The inflation/deflation valve of claim 1 wherein said valve sleeve having a ridge disposed on an outer surface and said spring is disposed between said valve seat and said ridge.

12. The inflation/deflation valve of claim 1 wherein said valve sleeve having a stop member disposed on its outer surface to restrict inward movement of said valve sleeve within the internal passageway of said valve body to a specific length.

13. The inflation/deflation valve of claim 12 further including means for locking said valve seat and said valve face in a closed sealed position.

14. The inflation/deflation valve of claim 13 further including means for locking said valve seat and said valve face in an open non-sealed position.

15. The inflation/deflation valve of claim 1 wherein the outlet end of said valve sleeve is perforated.

16. The inflation/deflation valve of claim 1 wherein said valve body having an outer surface having one or more barbs disposed on a portion thereof for securing the valve body to a tubing.

17. The inflation/deflation valve of claim 1 further including a weldable flange attached to said valve body for attaching said valve body to an inflatable object.

18. The inflation/deflation valve of claim 2 further including an o-ring disposed on said valve sleeve for providing a sealed relationship between said valve sleeve and a coupled pneumatic supply.

19. The inflation/deflation valve of claim 13 wherein said means for locking is a valve lock threadedly attached to said valve body; wherein in a closed sealed position said valve lock is positioned on said valve body to be in an abutting relationship with the stop member which prevents the valve sleeve from being movable inward with respect to the internal passageway of said valve body.

20. The inflation/deflation valve of claim 14 wherein said means for locking comprising:

- a valve lock threadedly attached to said valve body, said valve lock defining a keyway; and

- a key disposed on said valve sleeve;

wherein in a closed sealed position said valve lock is positioned on said valve body to be in an abutting relationship with the stop member which prevents the valve sleeve from being movable inward with respect to the internal passageway of said valve body and in an open non-sealed position said valve lock is positioned on said valve such that the keyway receives and retains the key which maintains the valve sleeve in the open non-sealed position.

21. The inflation/deflation valve of claim 17 further comprising an overpressure relief valve having a relief valve body attached to said weldable flange for attaching said relief valve body to the inflatable object.

22. The inflation/deflation valve of claim 21 wherein said valve body and said relief valve body share a common wall such that the inflation/deflation valve and the overpressure relief valve are in a side-by-side relationship.

23. A power inflator comprising:

- a body member having an internal chamber, first gas travel path in communication with the internal chamber, a second gas travel path in communication with the internal chamber

a conduit in communication with said first gas travel path;
a mouthpiece in communication with said second gas travel path;
means for providing controlled gas supply into the internal chamber from a compressed gas supply; and

a female port in communication with the internal chamber through a valve; said female port coupling an inserted male portion of a pneumatic valve connected to an inflatable object;

wherein proper insertion of the male portion of the pneumatic valve into the female port causes the female port valve to permit gas disposed within the internal chamber to travel through the pneumatic valve and into the connected inflatable object.

24. The power inflator of claim 23 wherein said female port provides non-locking coupling of the male portion.

25. The power inflator of claim 23 wherein said female port including at least one locking ball which is received within a locking groove of said male portion for providing a locked coupling relationship between said female port and the male portion when the male portion is properly inserted within the female port.

26. The power inflator of claim 23 wherein said female port further including an o-ring disposed therein for providing a sealed relationship between the female port and the male portion when the male portion is properly inserted within the female port.

27. The power inflator of claim 23 further comprising a second female port in communication with said internal chamber through a manually operated valve.

28. A second stage regulator comprising:

a body member having an internal chamber in communication with a hose port and a back-up regulator port;

a female port in communication with the internal chamber through a valve; said female port coupling an inserted male portion of a pneumatic valve connected to an inflatable object.

29. The second stage regulator of claim 28 wherein said female port provides non-locking coupling of the male portion.

30. The second stage regulator of claim 28 wherein said female port including at least one locking ball which is received within a locking groove of said male portion for

providing a locked coupling relationship between said female port and the male portion when the male portion is properly inserted within the female port.

31. The second stage regulator of claim 28 wherein said female port further including an o-ring disposed therein for providing a sealed relationship between the female port and the male portion when the male portion is properly inserted within the female port.

32. The second stage regulator of claim 28 further including an elongated hose attached at one end to the hose port of the body member and at its opposite end to a primary stage regulator.